REMARKS

Claims 1-15 are pending.

Claims 6, 10, and 12-15 are cancelled.

Claims 1 has been amended. Support for this amended can be found throughout the specification, e.g., at page 8, lines 9-21.

New claims 16-19 are added. Support for new claims 16 can be found throughout the specification, e.g., at page 11, lines 4-29. Support for new claims 17 and 18 can be found throughout the specification, e.g., at page 8, lines 9-21. Support for new claim 19 can be found throughout the specification, e.g., at page 12, lines 6-18.

Claims 1-5, 7-9, 11, and 16-19 will therefore be pending upon entry of the proposed amendments.

Claim Objection

Applicants have amended claim 1 to include an additional step (currently step b) as follows:

> b) determining a new resonance frequency, shifted with respect to the Larmor frequency (v_0) for the water hydrogen protons nearby the contrast product.

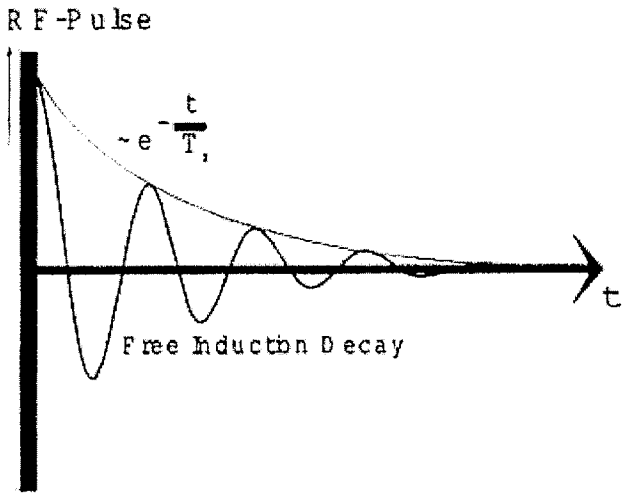
Applicants believe that this amendment clarifies which step a contrast product is used. This objection should be withdrawn.

Rejections under 35 U.S.C. § 102(e)

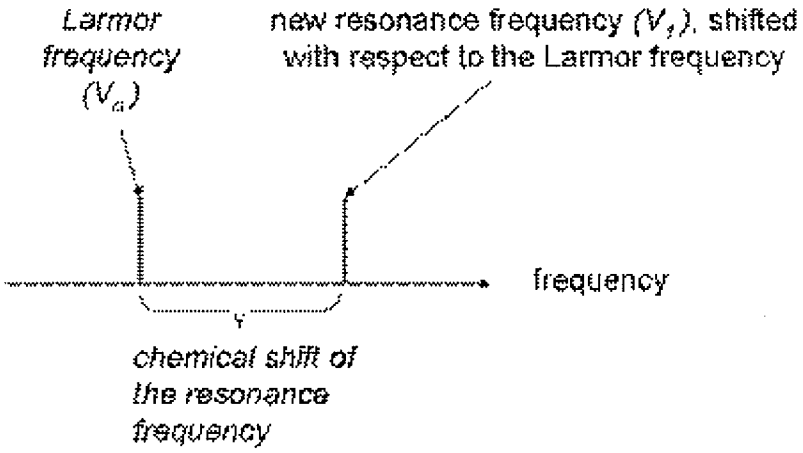
Claims 1-15 are rejected as being anticipated by Meade *et al.* (U.S. Patent No. 6,770,261) (hereafter "Meade"). Applicants respectfully traverse this rejection.

Meade appears to disclose the injection of paramagnetic contrast agents in order to provide *a proton relaxation enhancement*, which would decrease T1 and T2 relaxation times (see column 2, lines 13-34) and enhance MR image by increasing relaxivity of protons (see column 7, line 38 to column 8, line 41). The relaxation times T1 and T2 are the characteristic times of the

relaxation processes that establish equilibrium following the radio frequency excitation as shown in the following picture.



In contrast, amended claim 1 and new claim 16 are directed to methods for acquiring electromagnetic signals which includes the step of injecting an amount of contrast product comprising at least one element capable of causing a chemical shift of a resonance frequency of water hydrogen protons. As described in the specification at page 6, lines 22-30 and pages 8, lines 9-21, the chemical shift provided by the contrast product brings about a *shift in the resonance frequency of the protons* contained in the water. Thus, the resonance frequency is no longer the Larmor frequency.



Additionally, Meade seems to teach exciting the water hydrogen protons ***at the Larmor frequency***, which is just as explained in an article from "Principles of Nuclear Magnetic Resonance" (Paul T. Callaghan, Oxford science Publication).

> First, in the nuclear magnetic resonance (NMR) procession, the nuclei can be excited from their equilibrium state by applying a radio-frequency magnetic field at exactly the Larmor frequency ... ... (Principles of Nuclear Magnetic Resonance at page 21)

The present claims, however, teach exciting the water hydrogen protons at *a new resonance frequency*, shifted with respect to the Larmor frequency. As such, Meade does not anticipate the present claims.

Moreover, Meade does not discloses a method comprising a double radio frequency wave pulse sequence as recited in claim 16. More particularly, Meade does not teach the step (step b of claim 16) of "exciting said body part by means of a first radio frequency wave pulse sequence in a range of frequencies adjusted to a frequency corresponding substantially to the Larmor frequency for the water protons not chemically shifted with a duration able to saturate the protons concerned, so as to these protons no longer transmit any significant magnetic resonance signal at the end of the first radio frequency wave pulse sequence." Neither does Meade teach the step (step c of claim 16) of "exciting said body part by means of a second radio frequency wave pulse sequence that are relatively nonselective in terms of frequency" so that the water protons that have been chemically shifted could come into resonance. Thus, new claim 16 cannot be anticipated by Meade.

Furthermore, there are many advantages in the present invention, which Meade lacks. For example, the contrast product of the prior art can create magnetic induction microgradients that result in local distortions of the magnetic induction to which a body is subjected. In addition, the present invention allows linearity between the chemical shift and the concentration of contrast product (see page 8, lines 33-37) and makes contract product concentration quantifiable.

In view of the foregoing, Applicants respectfully request that the rejection be reconsidered and withdrawn.

Please apply any other charges or credits to Deposit Account No. 06-1050, referencing Attorney Docket No. 19320-002US1.

Respectfully submitted,

Date:13 May 2008

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